Transcript of Cockpit Voice Recorder Martinair, MP495, PH-MBN, AMS-FAR McDonnell Douglas DC-10 21 December 1992

### NOTE:

Times in this transcript are changed in the Final Report

UTC	CHANNEL 1 and 2 (F/E and F/O)			CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
06:52:52						F/O	intercept the one zero three, climb three thousand feet, proceed to the holding east holding, uh, airport elevation and runway elevation twenty four feet, transition, four thousand
06:53:22		   V	MP461	uh, the Martinair four six one is standing by for descent			fly the approach with fifty flaps, manual crew coordination procedure you call approaching minimums and field in sight you looking outside runway is twenty four ninety wet runway
06:53:26		1	ATC	four six one expect descent after crossing opposite traffic			•
06:53:31		1	MP461	roger Martinair four six one			
06:53:56						Capt	we have to look at these things
06:53:58						F/O F/E	ja ja
06:53:59						Capt	and here are the wipers
06:54:00						F/O	roger
06:54:08						F/E	speeds they are two three seven, one niner five, one six one, fifty land is one three niner
06:54:25						Capt F/O	set set
06:54:56			ATC	Martinair four six one clear of traffic, descend flight level one two zero			
06:55:00			MP461	roger down to one two zero, Martinair four six one			
06:55:54						Capt	you have to make it a positive touchdown then
06:55:56					7	F/O	ja
06:56:09						F/O	soms gebeurt het ongewild wel eens that happens sometimes, even if you don't want it
06:56:11					]	Capt	ja
06:56:51			ATC	Martinair four nine five proceed direct to Faro			
06:56:55			MP495	proceed direct to Faro, four nine five, thanks			

UTC		C	CHANNEL 1 and 2 (F/E and F/O)			CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
06:57:01								F/O	direct Faro
06:57:02								Capt	ja
06:58:51					AA170	Lisboa, Argentina one seven oh			
06:58:57					ATC	Argentina one seven zero Lisboa, bon dia, squack four two seven zero			
06:59:03									
06:59:04		·			AA170	Bon dia, four two seven zero		F/O	ja, ze hebben PAPI daar yes, there is PAPI over there
06:59:05				_				Capt	runway lights, centreline lights, maar geen approach lights runway lights, centreline lights, but no approach lights
06:59:12								F/O	klein beetje, uh, offset, hè, naar links some, uh, offset, isn't it, to the left
06:59:15								Capt	ja, heel klein beetje yes, a little bit
06:59:16				_				F/O	vijf graden five degrees
06:59:41								F/O	
06:59:52							7	Capt	TAP
06:59:58				_		Lisbon	_	Capt	dan ben ik er even af then I'm of this frequency for a while
06:59:59							7	F/O	ja
	1	MP495	TAP, uh Faro good morning, Martinair four nine five						
07:00:09	1	comp	good morning Martinair four, uh, nine five four						
07:00:10					ATC	Martinair four six one Lisboa, continue descend flight level six zero			
07:00:13	1	MP495	uh, ETA is, uh, zero seven three zero						
07:00:14					MP461	roger down to level six zero Martinair four six one	_		
07:00:18	1	comp	ok, estimate the landing, uh, three zero, thank you, see you on the ground, have a nice landing						
07:00:20					ATC	Argentina one seven zero you are identified			

UTC		HANNEL 1 and 2 (F/E and F/O)		CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
07:00:24 1	MP495	thank you			1.00		
07:00:25			AA170	Argentina una seven zero			
07:00:28						Capt	ik ben er weer I'm back again
07:00:29						F/O	roger
07:00:33						F/O	waar staan wij eigenlijk? what is our parking position, anyway?
07:00:37						Capt	meestal, uh, even kijken, uh, hier ergens most of the time, uh, let's have a look, uh, somewhere over here
07:00:49						F/O	ja, ja
07:00:55	<b></b>					F/O	descent checklist
07:00:58						F/E	descent checklist
07:00:59		, ·				F/E	windshield anti-ice
07:01:02						Capt	set
07:01:03						F/E	exterior lights
07:01:04							sound of clicks (exterior light switches)
07:01:06						Capt	set
07:01:07			 			F/E	annunciator lights
07:01:10			 			F/O	checked
07:01:12			 			Capt	checked here
07:01:15			 			F/E	terrain clearance
07:01:16			 	-		Capt	checked
07:01:18			 			F/E	approach preparation
07:01:21						F/O	completed
07:01:22 2	MP461	Air Portugal good morning, Martinair four six one				Capt	completed
07:01:23						F/E	descent checklist completed
07:01:26						Capt	even nog een bakentje, hè just a beacon, isn't
07:01:29						F/O	ja, die zit achter de baan yes, that one is behind the runway
07:01:30 2	comp	good morning four six one, go ahead					y, star of to octains the failure
07:01:31						Capt	achter de baan en dat is dus behind the runway, so that is

UTC	1888	С	HANNEL 1 and 2 (F/E and F/O)	100	<del></del>	CHANNEL 3 (Capt)	34		CHANNEL 4 (Area Mike)
07:01:33	2	MP461	morning, we expect to land at zero seven two five, uh, we need one wheel chair						
07:01:34								F/O	
07:01:36								Capt	ik geloof het wel, hè I think so, isn't it
07:01:38	1								sound of selection
07:01:40	2	comp	ok, two five, uh, you need one wheel chair and see you on the ground					Capt	hij wijst iets naar, uh, it is indicating to, uh
07:01:45	2	MP461	yooh						
07:01:51								Capt	drio drio twee far three three two far
07:01:56								F/O	uh, kun jij descent clearance vragen?  uh, will you ask descent clearance?
07:02:00					MP495	Martinair four nine five request descent			
07:02:06					ATC	Martinair four six one contact now Faro one one niner four, good day			
07:02:12					MP461	understand four one nine four Faro Approach, good day			
07:02:16					ATC	Martinair four niner five descend level two five zero			
07:02:19					MP495	four nine five leaving level three seven zero for level two five zero			
07:02:25								F/O	armed, set two five zero
07:02:28								Capt	ik ga eventjes uitluisteren wat wij  I'm listening out what we
07:02:32	1	ATC	Bon dia confirm inbound radial and distance to run						
07:02:39	1	MP461	inbound radial, uh, zero, uh, two four and distance to go seven zero DME						
07:02:47	1	ATC	copied and continue as cleared, report approaching flight level six zero, you are number one, runway one one in use, wind from one five zero, one five knots, visibility two five zero zero meters, present						

UTC		С	HANNEL 1 and 2 (F/E and F/O)	13.5		CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
			weather thunderstorm, the nmount of clouds three octas at five zero zero feet plus seven octas at two three zero zero feet plus one octas cb's at two five zero zero feet, temperature one six, QNH one zero one three, transition level five zero						
07:03:26					ATC	Columbus five one zero please contact now Madrid one three two five five, radar service terminated, good day			
07:03:33					AC510	roger one three two five five, good day			
07:03:35	1	MP461	roger copied your weather, one zero one three is the QNH and, uh, runway one one for the Martinair four six one and request a VOR/DME approach						
07:03:37	1	ATC	roger						
07:03:39								Capt	it's now twenty five hundred meters (thunderstorms), three at five hundred, seven octa at twenty three hundred, transition level five zero and we need for a VOR approach two thousand
07:04:05								F/O	ook ja that too, yes
07:04:09					ATC	Argentina one seven zero estimated time Caseres?			
07:04:13				]	AA170	Caseres? standby one please	_]		
07:04:17								Capt	if we don't make it, we go immediately to Lisboa
07:04:20								F/O	ja
07:04:22							_]	Capt	but it shouldn't be a problem
07:04:31		·			AA170	zero seven three seven, Argentina one seven oh			
07:04:36					ATC	thank you	_		
07:04:47					AA170	Lisboa, Argentina one seven zero	_		
07:04:51					ATC	go ahead			
07:04:52					AA170	did you copy?			

UTC	3333	CHANNEL 1 and 2 (F/E and F/O)			CHANNEL 3 (Capt)	200		CHANNEL 4 (Area Mike)
07:04:54				V,LC	thank you, affirmative			
07:04:56				AA170	thank you			
07:05:08				AA170	Argentina one seven zero request direct to Caceres please			
07:05:16			7	ATC	cleared direct Caceres	] [		
07:05:18				AA170	thank you very much			4
07:05:53				ATC	Martinair four niner five recleared level seven zero			
07:05:56				MP495	four nine five cleared flight level seven zero			
07:05:59				ATC	four six one, Lisboa?			·
07:06:03						_	F/O	level seven zero, set and armed
07:06:32							Capt	I don't see anything on the radar at all
07:06:45						_	F/O	hier rechts here, to the right
07:06:47							Capt	ja, one zero kilometers
07:07:39							F/O	ja, we zitten er precies boven yes, we are exactly on top
07:07:41							Capt	hè? what?
07:07:42							F/O	precies overheen exactly on top
07:07:43							Capt	ja
07:07:58							F/O	zullen we QNH maar zetten, duizend dertien let's set QNH then, one thousand thirteen
07:08:01	_						Capt	(ok, ja) .
07:08:09				ATC	Martinair four niner five descend level seven zero, contact now Faro one one niner four, good day			
07:08:15				MP495	uh left seven zero and one one nine four, good day			
07:08:22				MP495	uh approach, Martinair four niner five good morning, seventy five DME and out of two four zero for level seven zero			

UTC		CHANNEL 1 and 2 (F/E and F/O)			CHANNEL 3 (Capt)	3000	j	CHANNEL 4 (Area Mike)
07:08:32				ATC	Martinair four niner five, good morning sir, continue as cleared, report approaching flight level seven zero, presently number two, no delay expected, runway one one in use, the wind from one five zero, one eight knots, visibility two five zero zero moters, present weather thunderstorm, the amount of clouds three octas at five zero zero feet plus seven octas at two three zero zero feet plus one octas cb's at two five zero zero feet, temperature one six, QNH one zero one three, transition level five zero			
07:09:13				MP495	uh, copied ok and number two and one zero one three			
07:09:24	<u> </u>						F/E	set
07:09:25	<u> </u>						Capt	ja
07:09:54							Capt	we can go at the end of the runway, hè
07:09:56							F/O	ja
07:11:01				TP120	Faro, Air Portugal one two zero, taxi			
07:11:04				ATC	one two zero, taxi via, uh, Papa to, holding point runway one one, clearance available			
07:11:13			İ	TP120	uh, to holding point runway one one via Papa, ready to copy	1		·
07:11:18				ATC	cleared to Lisboa direct Caparica, flight level one six zero, the squawk alpha three three six zero			
07:11:27				TP120	roger one two zero, cleared Lisboa direct Caparica, flight level one six zero and squawk three three six zero			
07:11:36	<u></u>			ATC	read back correct	-		
07:11:41	PA	dames and heren, over ongeveer minuten ladies and gentlemen, in about minutes						

UTC		СНА	ANNEL 1 and 2 (F/E and F/O)		CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
07:12:05				ATC	Martinair four six one confirm passing altitude and distance			
07:12:09				MP461	out of eight five for four thousand feet, present out of, uh, two zero nautical miles			
07:12:14							Capt	two zero nautical miles
07:12:17				ATC	roger			
07:12:19	1		net Angeline with Angeline					
07:12:20	1		i, met Iris, de galley is ok hoor hi, with Iris, the galley is ok					
07:12:22	1	CA1 fi	jn, dank je that's fine, thank you				F/O	hè? what?
07:12:23							Capt	hij zit twintig mijl voor ons he is twenty miles in front of us
07:12:25							F/O	
07:12:28							Capt	ja
07:12:34						-	<u></u>	sound of somebody whistling
07:12:45							F/O	't is er wel een boestenweer it's raining cats and dogs over there
07:12:46							Capt	ja
07:13:07							Capt	we should have arrived half an hour earlier
07:13:10							F/O	ja, dat kun je wel zeggen yes, you can say that again
07:13:13						]	Capt	ja
07:13:21				MP461	Martinair four six one, uh, can we uh proceed, uh, approximately five miles over lest to avoid build up?			
07:13:33				ATC	affirm, confirm you are flying, uh, down the, uh, INS to five miles finals?			
07:13:42				MP461	uh, negative, proceeding five miles left of track to avoid build up			
07:13:47				ATC	ok, so, uh, report passing, uh, abeam overhead for a VOR/DME procedure			

UTC	337.	CHANNEL 1 and 2 (F/E and F/O)			CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
07:13:54				MP461	uh, we'll proceed overhead when we are clear and we have present out of six zero for level, uh, correction for four thousand feet and we are one four nautical miles out			
07:14:07				ATC	roger sir, report overhead for starting the VOR/DME procedure outbound radial one two five, sorry two six nine			
07:14:14				MP461	roger, outbound two sixty nine, call you overhead, Martinair four six one			,
07:15:09								sound of opening of cockpit door
07:15:13							CA	hoe is het weer? how is the weather?
07:15:14							Capt	't is er rot weer it's lousy weather over there
07:15:15							CA	rot weer? lousy weather?
07:15:16							Capt CA	ja bah, ga ik weer uch, I'm yone again
07:15:21			]			]		sound of closing of cockpit door
07:15:25	<b>.</b>						F/O	approach checklist
07:15:29	∭.						F/E	approach checklist
07:15:30	<b>     </b>		]				F/E	no smoking seat belts
07:15:32						_]	Capt	auto, on
07:15:34						_]	F/E	exterior lights
07:15:35	▓,					_]	Capt	set .
07:15:36	‱.						F/E	thrust computer
07:15:38							Capt	set
07:15:37	<b>∭</b> [			ATC	one two zero line up is approved	7		
07:15:40				TP120	one two zero cleared line up runway one one			
07:15:44			]			7	F/E	landing data
07:15:46			1			7	F/O	checked and set
07:15:50			1			٦	Capt	set, ja
07:15:52	<b>    </b>		7			$\dashv$	F/E	radio altimeters

UTC	3 1 3 3	CHANNEL 1 and 2 (F/E and F/O)			CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
07:15:55							Capt	checked, zero set
07:16:00							F/E F/O	you? ja, checked zero set
07:16:03							F/E	speed brakes
07:16:04							Capt	retracted
07:16:06							F/E	nav systems
07:16:07			_				F/O	set
07:16:08							Capt	set
07:16:14							F/E	crew briefing
07:16:16							F/O	completed
07:16:17							Capt	uh, do you want to start with two six nine radial?
07:16:24							F/O	ja direct dat is goed ja yes, in a moment that's ok, yes
07:16:32			-				F/E	sorry, crew briefing
07:16:33				·			F/O	is completed
07:16:36			_			7	F/E	standby for altimeters
07:16:38							F/O	altimeters
07:16:42	1		$\neg$				F/E	approach checklist completed
07:17:10			_	ATC	Martinair four six one confirm distance			
07:17:14				MP461	uh, approaching overhead two and a half miles out, four thousand feet			
07:17:18				ATC	roger, cleared for a VOR/DME approach runway one one, two six nine outbound, report leaving four thousand			
07:17:27				MP461	roger, call you leaving four thousand and outbound two sixty nine			
07:17:35				ATC	Martinair four nine five confirm distance to run			
07:17:38				MP495	distance to run is two six and we are out of nine zero for seven zero			
07:17:54				MP495	did you copy, four nine five?			
07:17:56				ATC	affirm			

UTC		CHANNEL 1 and 2 (F/E and F/O)	230		CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
07:17:59	•			TP120	Faro, Air Portugal is ready for go, runway one one, if possible request left turn out after two thousand feet			
07:18:08				ATC	ok, be advised we have a DC ten coming from, uh, northeast descending to seven zero			
07:18:21				TP120	copied, confirm we are cleared for take-off?			,
07:18:24			_	ATC	just a second, Martinair four six one confirm passing overhead?			
07:18:27				MP461	affirmative and leaving four thousand feet for two thousand			
07:18:31				ATC	confirm, uh, joining two six nine radial?			
07:18:34				MP461	affirmative Martinair four six one			
07:18:38				ATC	Air Portugal one two zero I suggest to avoid restrictions a right turn to be overhead above six zero			
07:18:42							Capt	sound altitude alert, selector knob ja, check
07:18:45				TP120	roger, right turn Air Portugal one two zero			
07:18:50		•		ATC	the wind, uh, two, sorry one five zero, two four knots, cleared take-off runway one one, right turn to be overhead above six zero			
07:18:52	‱.					_]	Capt	
07:18:54							F/E	hè what?
07:18:55	<b>     </b>		_				Capt	·
07:18:56	<b>    </b>		_			_	F/E	ja, I'll check them
07:19:02				TP120	roger, right turn to be overhead above six zero, cleared for take-off, Air Portugal one two zero			
07:19:09				ATC	Martinair four nine five descend four thousand feet to be below six zero at least at ten DME			
07:19:15				MP495	roger, below six zero ten DME, down four thousand feet			

UTC	CHANNEL 1 and 2 (F/E and F/O)			CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
07:19:19				<u> </u>		F/O	four thousand feet armed
07:19:20						Capt	ok, uh,
07:17:26						Capt	report out of six zero, ten DME
07:20:03			,			F/O	approaching six zero
07:20:05						Capt	ja
07:20:07			MP495	four nine five is out of six zero			
07:20:11	·		ATC	four nine five roger, next report passing overhead joining outbound radial two six nine for further clearance			
07:20:19		_	MP495	wilco, Martinair four nine five			·
07:20:37			MP461	Martinair four six one is at two thousand feet to maintain, we approaching seven miles out and we are turning inbound shortly			
07:20:47			ATC	four six one copied, next report leaving two thousand feet seven miles inbound			
07:20:48		_			1		sound of altitude alert
07:20:52			MP461	I will do, four six one	7		
07:21:02						F/O	altitude capture
07:21:04					]	Capt	check
07:21:09			ATC	(Air) Portugal one two zero airborne at two one, report passing overhead			
07:21:15			TP120	one two zero wilco	7.		
07:21:21			MP495	Martinair four nine five maintaining four thousand			
07:21:23						F/O	altitude hold-
07:21:25			ATC	four nine five confirm distance	7		
07:21:27		—  **	MP495	one one	7		
07:21:29			ATC	roger, next report overhead	1		
07:21:33			MP495	wilco four nine five	7		
07:21:41			AC1158	Faro, Air Columbus one one five eight we are ready for push and start			
07:21:46			ATC	Air Columbus calling Approach, contact Tower one one eight two			

UTC	2.13() 6.22()	CHANNEL 1 and 2 (F/E and F/O)	50.0		CHANNEL 3 (Capt)		······································	CHANNEL 4 (Area Mike)
07:22:24				MP495	Approach from four nine five, the departing traffic is out of four thousand now?			
07:22:30				ATC	one two zero, confirm passing altitude			
07:22:33				TP120	we are eight zero, just in the middle of a thunderstorm			
07:22:40				ATC	one two zero, roger, contact Lisboa, frequency one two five five five			
07:22:44								sound of selector knob
07:22:46				TP120	this is why I asked the left turn out, thank you, one two five five five, one two zero			·
07:22:50						7	F/O	slats, take-off
07:22:53								sound of selection
07:23:02							Capt	slats are take-off
07:23:25				MP461	Martinair four six one is leaving two thousand			
07:23:29				ATC	confirm runway lights in sight?		F/O	flaps, one five
07:23:32				MP461	negative, fully india mike charly			
07:23:35				ATC	roger, request, uh, at minimums or runway lights in sight			
07:23:41				MP461	call you			
07:23:44				ATC	Martinair four nine five, when passing overhead, join outbound radial two six nine, initially descend to three thousand feet			
07:23:53			I:	MP495	when overhead at two six nine radial and down three thousand			
07:24:02						7	Capt	ja hier, je kunt de runway zien yes, over here, you can see the runway
07:24:04						-	F/O	ja
07:24:06				MP461	the Martinair four six one, runway, visual			
07:24:09				ATC	Cleared to land runway one one, runway surface conditions flooded, wind one five zero, two zero knots			
07:24:16	J						Capt	flaps are on one five
07:24:18				MP461	one five zero, two zero, Martinair four six one			

UTC		CHANNEL 1 and 2 (F/E and F/O)			CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
07:24:36							F/O	ik heb VOR geselecteerd
07:24:38			-				Capt	that's right, me too
07:24:50							Capt	there is the seven six seven
07:24:51			-				F/O	ja, altitude capture
07:24:56							F/O	three thousand feet is armed
07:25:00							Capt	check
07:25:11				MP495	four nine five is overhead, leaving four thousand for three thousand			
07:25:17			-			1		sound of horn, altitude alert
07:25:19				ATC	four nine five roger, confirm VOR/DME procedure runway one one, continue descend to two thousand feet, report turning inbound			
07:25:26			-	MP495	call you turning inbound and proceeding to two thousand feet			
07:25:30			-				F/O	two thousand feet armed
07:25:32				MP461	Martinair four six one, final			
07:25:35				ATC	cleared to land, now one three zero one eight, two one maximum			
07:25:41				MP461	copied the wind, cleared to land, four six one			
07:25:46			-			7	F/O	Naps, two two
07:25:47								sounds of selection, horn and selector knob
07:25:54						_]	Capt	flaps are two two
07:25:59						_	Capt	you may turn at eight DME
07:26:01						_	F/O	ja
07:26:16	]						F/O	heading select
07:26:18								sound of altitude alert
07:26:19						_	F/O	twenty five hundred, QNH set
07:26:33						-	F/O	altitude capture
07:26:35							Capt	check
07:26:44	]					-	F/O	altitude hold
07:26:45							Capt	ja

UTC	CHANNEL 1 and 2 (F/E and F/O)		CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
07:27:12		ATC	Martinair four six one, uh, on the ground at two eight, at the end and by the left, change to Tower frequency one, uh, one eight decimal two			
07:27:20		MP461	one one eight two, pleasant day		<del></del>	
07:27:25				_		sound of slector knob
07:27:53				_	Capt	approaching eight miles
07:27:54				_	F/O	yes
07:27:56				_	Capt	I'll give you one one one
07:27:57						sound of selector knob
07:28:01					F/O	over right, heading zero eight zero
07:28:04					Capt	zero eight zero
07:28:11		MP495	four nine five is turning inbound	_		
07:28:17		ATC	four nine five copied, report at minimums or runway in sight, runway surface conditions are flooded			
07:28:26		MP495	roger, call you	_		
07:28:30						sound of selector knob (auto pilot trim)
07:28:42						zero
07:28:44				_	Capt	ja
07:28:55					Capt	seven DME
07:28:57					F/O	ja, dan mag de gear down yes, then the gear may be selected down
07:29:00				_	Capt	gear down
07:29:17				_	Capt	wind is from the right
07:29:22		·		-	Capt	gear is down
07:29:23				_	F/O	ja, thank you
07:29:25					F/O	flaps three five
07:29:28		<del></del>		$\dashv$	Capt	flaps three five
07:29:30				$\dashv $	1	sound of selector knob
07:29:32		<u> </u>			Capt	flaps are three five
07:29:36		AC1158	Air Columbus one one five eight with you		F/O	vertical speed selected
07:29:38		ATC	one one five eight continue to taxi	_		
07:29:43		<del></del>	**************************************	_	F/O	flaps, five zero

UTC	2.2	CHANNEL 1 and 2 (F/E and F/O)			CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
07:29:47			14.5				Capt	Naps five zero
07:29:50								sound of selections: selector knob, pause, 4 clicks, selector knob
07:30:00							Capt	six DME seventeen thirty
07:30:05							Capt	check?
07:30:06							F/O	yes, check
07:30:08							Capt	five DME, fourteen thrity
07:30:11		•				7		sound of selector knob
07:30:13							Capt	wind is coming from the right, thirty knots, drift twelve degrees, so you make it one two three or so
07:30:22						7	F/O	ja
07:30:25						7	F/E	ok for the landing checklist?
07:30:27							F/O	ja, landing checklist
07:30:28						_	Capt	four DME, eleven twenty
07:30:32						_	F/E	missed approach altitude
07:30:36						7	Capt	three, set
07:30:38				AC1158	Air Columbus one one five eight, ready for departure	_		
07:30:40							F/E	altimeters
07:30:41							Capt	set three times
07:30:44							F/E	spoilers sound of arming the spoilers
07:30:45							Capt	arm
07:30:46							F/E	I'll check them
07:30:47							Capt	ja
07:30:48						_		sound of arming
07:30:50	]					_	F/E	flaps, slats
07:30:52			1			7	Capt	five zero, land
07:30:55							F/E	landing checklist completed
07:30:56	1		1			7	Capt	ok
07:30:57				AC1158	Tower, Air Columbus one one five eight			
07:31:01	]			ATC	go ahead	$\neg$	F/O	the runway is
07:31:02	]		]	AC1158	ready for departure			
07:31:03							Capt	four DME, eleven twenty

UTC	1,11	CHANNEL 1 and 2 (F/E and F/O)		CHANNEL 3 (Capt)			CHANNEL 4 (Area Mike)
07:31:05			ATC	Martinair four nine five, confirm inound, how many miles?			
07:31:08			MP496	we are four miles out			
07:31:10			ATC	roger, Air Columbus one one five eight, hold short			
07:31:14						Capt	ja, je kan de baan zien yes, you can see the runway
07:31:15			AC1158	holding short (at Mike), Air Columbus one one five eight			
07:31:24						Capt	three DME, eight twenty
07:31:29						Capt	three DME, eight twenty
07:31:33							start of sound of windshield wipers
07:31:37	31_		MP495	Martinair four nine five, finals			
07:31:40			ATC	confirm you have runway lights in sight?			
07:31:43			MP495	affirm			
07:31:44			ATC	cleared to land runway one one, the wind one five zero, one five knots, maximum two zero			
07:31:52			MP495	cleared to land			
07:31:53						F/O	auto pilot C(WS)
07:31:54						Capt	ok, hè, the runway is
07:31:55			ATC	confirm the lights are too bright?			
07:31:58	- I		MP495	no, it's fine, keep it			
07:32:00						F/E	(you missed the) five hundred
07:32:03	   43   <b>-</b>				_	Capt	cleared, hè
07:32:04					_	F/O	ja
07:32:04						F/E	ja, check cleared
07:32:15						F/O	PAPI, hè
07:32:16						Capt	ja
07:32:20					_	Capt	speed a bit low, speed is low
07:32:24					7	Capt	ja ok, speed is ok
07:32:29						F/O	windshield, uh, windshield anti-ice, ik zie niks windshield, uh, windshield anti-ice I don't see anything
07:32:30	-				_	Capt	ja
07:32:32						F/E	you're at fast

UTC	CHANNEL 1 and 2 (F/E and F/O)		CHANNEL 3 (Capt)	<b>.</b>		CHANNEL 4 (Area Mike)
07:32:34					Capt	a bit low, bit low, bit low
07:32:36					F/O	ja
07:32:37				100	Capt	ok, ok, ok
07:32:39					Capt	wind is, uh, one ninety with twenty
07:32:44 07:32:44						sound of double click sound of single click
07:32:47	start of "kettle" tone (radio altimeter passing 50 feet)		start of "kettle" tone (radio altimeter passing 50 feet)			start of "kettle" tone (radio altimeter passing 50 feet)
07:32:48		· ·			Capt	throttle(s)
07:32:48						sound of throttles pushed full forward
07:32:49	touchdown		touchdown			touchdown
07:32:51						sound of landing gear warning horn
07:32:58	end of recording		end of recording			end of recording