

The **Entra** Interactive Video Controller (IVC) is a dense out-of-band (OOB) controller that supports both Distributed Access Architecture (DAA) R-PHY and traditional RF networks. For R-PHY deployments, the IVC is an R-OOB Auxiliary Core with downstream (DEPI) and upstream (UEPI) interfaces. For traditional RF deployments, the IVC provides one downstream and up to eight upstream RF service groups with support for up to 16,000 set-top boxes. The IVC is future-proof, ready to support deployments of Remote MACPHY Devices (RMD) as part of the Flexible MAC Architecture (FMA).

Entra Interactive Video Controller - Chassis



Interactive Video Controller Features

- SCTE 55-2 OOB Controller
- One downstream and eight upstream RF service groups in 1RU
- Supports up to 16,000 SCTE 55-2 set top boxes
- Supports up to 256 Remote PHY Devices
- Dual redundant AC or DC power supplies
- Direct replacement for Cisco D9485

Interactive Video Controller Specifications

RF Downstream		RPHY Mode	
RF Output Frequency Range (Low Frequency Port)	70 MHz to 130 MHz	Max RPD's supported	256 per EN-IVC
RF Output Frequency Range (High Frequency Port)	70 MHz to 130 MHz	Configuration and Monitoring	GCP
RF Output Frequency Step Size	250 kHz	55-2 Specific Upstream/Downstream Data Transfer	Unicast, Multicast L2TPv3 Tunnels
RF Output Power Level	+50 dBmV to +60 dBmV (minimum range)	Interfaces	
RF Output Impedance	75 Ω	Primary Data Connection	10/100/1000 BASE-T Ethernet
Inband Spurious Outputs (50 MHz to 1002 MHz)	< -60 dBc	Craft Port	RS-232
Noise Floor (out-of-band)	< -132 dBc/Hz (> 25 MHz from output frequency)	AC Input (EN-IVC-2 AC)	3-prong male socket (IEC 60320-1 C14)
Output Power Level with Carrier Squelched	< 0 dBmV	DC Input (EN-IVC-2 DC)	Screw Terminal
Output Frequency Error (over temperature)	< 10 ppm over product lifetime	RF Input & Output	Type F, Female
RF Test Point Level	-20 dB ±2 dB over output frequency range	RF Test Point	BNC Female
Modulation (Downstream)		Ethernet	RJ-45 Female
Modulation Type	Differentially Encoded QPSK	Craft Port	DB-9 Female
Error Correction	Reed-Solomon, K= (55,53), t=1	Chassis / Power / Environmental	
Symbol Rate	772 KSym/s	Form Factor	1RU, Standard 19" Rack-mount, EIA RS-310
Symbol Pulse Shaping	Square Root Raised Cosine, alpha = 0.30	Dimensions (H x W x D)	1.75 in. x 19 in. x 19.5 in. (4.44 cm x 48.26 cm x 49.5 cm)
Spectral Mask	Response @ Offset from Center 0 ± 0.25 dB @ ±270 kHz -3 ± 0.25 dB @ ±386 kHz < -21 dB @ ±500 kHz ≤ -40 dB @ ±772 kHz ≤ -60 dB @ ±1 MHz	Voltage Options	90 VAC to 264 VAC, 47 Hz to 63 Hz (EN-IVC-2 AC)-42 VDC to 56.7 VDC (EN-IVC-2 DC)
Modulation Error Ratio	> 35 dB un-equalized	Power Consumption	87 W with Dual Power Supplies at 25°C 102 W with Dual Power Supplies at 50°C
RF Upstream		Operating Temperature	0° to 50°C (32° to 122°F)
Tuner Frequency Range	5 MHz to 26.5 MHz	Operating Humidity	0 to 95% non-condensing
Tuning Step Size	250 kHz	Regulatory Standards Compliance	CSA/UL IC, FCC RoHS Directive 2002/95/CE Compliant
Tuner Input Ranges	-13 dBmV to +3 dBmV (range 1) -5 dBmV to +11 dBmV (range 2) +3 dBmV to +19 dBmV (range 3) +11 dBmV to +27 dBmV (range 4)		
Total RF Power	≤ 35 dBmV (5 MHz to 42 MHz)		
RF Input Impedance	75 Ω		
Input Return Loss	> 12 dB (5 MHz to 42 MHz)		
Maximum Co-channel Single-tone Interferer	< -16 dBc for BER ≤ 1x10 ⁻⁸		
Maximum Total Adjacent Similar QPSK Carrier Power for BER ≤ 1x10 ⁻⁸	< +14 dBc for BER ≤ 1x10 ⁻⁸ Nominal carrier input level, adjacent channel QPSK Carrier sourced from Cisco STB (upstream transmitter exceeds SCT55-2 adjacent channel energy specification)		
Modulation (Upstream)			
Modulation Type	Differentially Encoded QPSK		
Error Correction	Reed-Solomon, K= (59,53), t=3		
Symbol Rate	772 KSym/s		
RSSI Accuracy	±2 dB		
Receiver Timing Accuracy	±1.9 μs		
Bit Error Rate (BER)	Better than 1x10 ⁻⁸ @ 18 dB E _b / N ₀		
Burst Noise Immunity	No lost cells for noise bursts up to -60 dBc/Hz of duration 1 μs in any 350 μs period		