

**Manufacturers and Principal Distributors of Mining Geophysical and Geochemical Equipment  
& Software in Canada (1994) - Sheet 1**  
Compiled by P.G. Killeen, Geological Survey of Canada, Ottawa, Ontario, K1A 0E8

COMPANY	TELEPHONE	TELEX (FAX)	SENIOR OFFICER
alphaNUCLEAR 1125 Derry Road, East Mississauga, Ontario L5T 1P3			Geoffrey M. Denham
ANDROTEX LTD. 7225 Harwick Drive Mississauga, Ontario L4T 3A5			Andrew Rogozinski
APEX PARAMETRICS LTD. P.O. Box 818 Uxbridge, Ontario L9P 1N2			Tapio Vaarre
BARRINGER RESEARCH LTD. 304 Carlingview Drive Rexdale, Ontario M9W 5G2			J.H. Davies
CHEMICAL PROJECTS LTD. 64 Racine Road Rexdale, Ontario M9W 2Z7			Dr. L.A. Pogorski
CRONE GEOPHYSICS & EXPLORATION LTD. 3607 Wolfedale Road Mississauga, Ontario L5C 1V8			J. Duncan Crone
DATAPLOTTING GEOTECH LTD. 200 Cochrane Drive, Unit 4, Markham, Ontario L3R 8E8			Ed Morrison
DIGHEM SURVEYS & PROCESSING INC. 228 Matheson Blvd. East Mississauga, Ontario L4Z 1X1			P. Strandberg
EXPLORANIUM LTD. Unit 7, 55 Healey Road Bolton, Ontario L7E 5A2			John R. Cox
GEM SYSTEMS INC. Unit 14, 52 West Beaver Creek Road Richmond Hill, Ontario L4B 1L9			Dr. I. Hrvoic
GEOINSTRUMENTS 254 Kensington Place Orangeville, Ontario L9W 4H1			Neil O. Punstel
GEONEX AERODAT INC. 3883 Nashua Drive Mississauga, Ontario L4V 1R3			Mario Steiner
GEONICS LTD. Unit 8 1745 Meyerside Drive Mississauga, Ontario L5T 1C6			J. Duncan McNeill
GEOPAK SYSTEMS 47 Jefferson Avenue Toronto, Ontario M6K 1V3			Dr. W.E.S. Urquhart
GEOSOFT INC. Suite 500, 204 Richmond St. West Toronto, Ontario M5V 1V6			Tim Dobush

**Manufacturers and Principal Distributors of Mining Geophysical and Geochemical Equipment  
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COMPANY	TELEPHONE	TELEX (FAX)	SENIOR OFFICER
<b>GEOTERREX</b> 2060 Walkley Road Ottawa, Ontario K1G 3P5			Peer Norgaard
<b>HERZ INDUSTRIES LTD.</b> 1415-2 Bonhill Road Mississauga, Ontario L5T 1R2			Alex Herz
<b>IFG CORPORATION</b> No. 5, 18 Bram Court Brampton, Ontario L6W 3R6			Detlef Blohm
<b>INSTRUMENTATION GDD INC.</b> 3700 Boulevard de la Chaudière Ste-Foy, Quebec G1X 4B7			Dr. Edwin Gaucher
<b>I-POWER</b> 228 Matheson Blvd. E. Mississauga, Ontario L4Z 1X1			Nick Valleau
<b>LAMONTAGNE GEOPHYSICS LTD.</b> 115 Grant Timmins Drive Kingston, Ontario K7L 4V4			Dr. Yves Lamontagne
<b>PHOENIX GEOPHYSICS LTD.</b> Unit 3, 3781 Victoria Park Avenue Scarborough, Ontario M1W 3K5			Leo Fox
<b>PICODAS GROUP INC.</b> Unit 6, 100 West Beaver Creek Road Richmond Hill, Ontario L4B 1H4			Bob Pavlik
<b>PYLON ELECTRONIC DEVELOPMENT CO. LTD.</b> 147 Colonnade Road Nepean, Ontario K2E 7L9			Lee Athias
<b>RMS INSTRUMENTS LTD.</b> No. 2, 1415 Bonhill Road Mississauga, Ontario L5T 1R2			Onorio Rocca
<b>SCINTREX LTD.</b> 222 Snidercroft Road Concord, Ontario L4K 1B5			Abe Rolnick
<b>SENSORS &amp; SOFTWARE INC.</b> 5566 Tomken Road Mississauga, Ontario L4W 1P4			Dr. Peter Annan
<b>W. SODIN (GRAVITY) LTD.</b> Unit 18, 95 West Beaver Creek Road Richmond Hill, Ontario L4B 1H2			Wolfi Sodin
<b>TERRAPLUS INC.</b> Unit 14, 52 West Beaver Creek Road Richmond Hill, Ontario L4B 1L9			Claude B. Meunier
<b>URQUHART DVORAK LIMITED</b> 47 Jefferson Avenue Toronto, Ontario M6K 1Y3			Dr. W.E.S. Urquhart
<b>URTEC INSTRUMENT SALES LTD.</b> 129 Telson Road Markham, Ontario L3R 1E4			Frank Bottos

COMMERCIALY-AVAILABLE INDUCED POLARIZATION (IP) EQUIPMENT

27/01/94

Manu- facturer (Country)	Type (TD=Time Domain FD=Freq. Domain Ø=Phase S=Spectral)	Transmitter Model No.	Cycling Time or Frequency	Transmitted Power	Transmitter Power Source (MG=Motor Generator)	Weight of Transmitter	Receiver Model No.	Sensitivity or Accuracy	Voltage Range	Micro- processor Controlled/ Data Memory	Weight of Receiver
Androtex (Canada)	TD & FD	STX-300	1,2,4,8,16 sec or 0.001 (DC) to 10 Hz. & Ext. clock controlled	300W	Battery or Ext. 12 V DC	3.5 kg + battery	FDR-2 2 dipole	10µV 0.5%	0.1mV to 10V AGC	Yes/1200 stations	5.8 kg
	TD & FD	STX-10	1,2,4,8,16 and 0.1, 0.3, 1.3 & 9 Hz and Ext.	600W	MG	7.5 kg	TDR-3	10µV 0.5%	0.1mV to 20V	No	1.3 kg
	TD & FD	STX-15	As above	1500W	MG	10 kg	TDR-4	10µV 0.5%	0.1mV to 20V	No	4.5 kg
	TD & FD	STX-20	As above	2500W	MG	18 kg	TDR-6 6 dipole	10µV 0.25%	0.1mV to 36V AGC	Yes/450 stations	6.5 kg
BRGM Instruments (France)	TD	ELECTRA	1,2,4,8 sec	1000W	50-60 Hz standard MG	18 kg	ELREC 6 (Freq. Option)	0.1 mV/V resolution 0.6% typ. accuracy	10µV to 8V	Yes/1800 measure- ments	7.5 kg
	TD & FD	VIP 3000	.5 - ∞ sec .0625 - 4 Hz program- mable	3000W	45 - 450 Hz standard MG	16 kg					
Instrumen- tation GDD Inc. (Canada)	TD	T3P-650	8 sec.	650W	110V AC or 60 Hz	11 kg					
	TD	T3P-1400	8 sec.	1.4 KW	Standard MG	19.5 kg					
Phoenix Geophysics (Canada)	TD & FD & ØIP	IPT-1 AC3000 or AC3006	FD:DC-5 Hz TD:1/64 to 4 Hz 25%/50%/ 75% duty cycle	300W to 3 Kw	Battery or 1/2/3 Kw MG 400 or 50/60 Hz	17 kg	IPV-1	10µV 1%	30µV to 10V, 5 ranges	No	1 kg
	TD, FD, ØIP & SIP	IPT-1 AC3004 or AC3007	FD:DC- 8 KHz TD:DC- 8 KHz 50% duty cycle or external Tx drive	300W to 3 Kw	Battery or 1/2/3 Kw MG 400 or 50/60 Hz	17 kg	V-2 (Phase IP) 2 ch.	10µV 1%	10µV to 10V AGC	Yes internal precision clock	13 kg

	TD, FD, ØIP & SIP	T15/T30	FD:DC-8 KHz TD:DC-8 KHz 50% duty cycle or external Tx drive	15 Kw or 30 Kw	MG-15 or MG-30 400 Hz	T15 : 95 kg T30 : 120 kg	V-4 TDIP ØIP SIP 8 ch.	10µV 1%	10µV to 10V AGC	Yes, Up to 576 Kb RAM	14 kg
	TD, FD & ØIP	IPT-2	FD:DC - 4 Hz TD: 1/8 Hz	10 Kw	MG-15 400 Hz	39 kg	V-5 TDIP ØIP SIP 16 ch.	1µV 1%	1µV to 10V AGC	Yes, Up to 24 Mb (2 Mb standard)	14 kg
	TD, FD & SIP	IPT-6	FD:DC-128 Hz TD:DC-128 Hz 50% duty cycle	Up to 100 Kw	MG-65 or MG-100 400 Hz	470 kg					
Scintrex (Canada)	TD	IPC-9/200	50% duty cycle, Polarity Reverse; 1,2,4,8,16 or 32 sec.	200 W	Pb-Acid Batteries	16.0 kg	IPR-10A	0.1 mV/V	30µV to 30V in 12 ranges	No	3.6 kg
	TD & FD	TSQ-2E/750	50% duty cycle, Polarity Reverse; 1,2,4 or 8 sec. or 0.1, 0.3, 1.0 or 3.0 Hz	750 W	MG	11.5 kg	ICS-2/IP-4	Better than 1%	50µV to 14V	Yes, over 1500 dipoles	5.2 kg
							IPR-12 8 dipole	Better than 1%	50µV to 14V	Yes, 400 readings of 8 dipoles	5.8 kg
	TD & FD	TSQ-3/3000	As for TSQ-2E	3.0 Kw	MG	25 kg					
	TD & FD	TSQ-4/10 Kw	As for TSQ-2E	10 Kw	MG	60 kg					
Zonge (USA)	TD & FD ØIP & SIP	GGT-3	DC to 8 kHz	3 KVA	3 Kw MG 400 Hz	30 kg	GDP-16T	.03µV	0.1µV to 32V	Yes/896 KB RAM	16 kg
	TD & FD ØIP & SIP	GGT-10	DC to 8 kHz	10 KVA	5, 7.5 & 10 Kw MG 400 Hz	51 kg	GDP-16	.03µV	0.1µV to 32V	Yes/16 MB RAM	23 kg
	TD & FD ØIP & SIP	GGT-30	DC to 8 kHz	30 KVA	32 KVA MG 400 Hz	93 kg	GDP-32	.03µV	0.1µV to 32V	Yes/60 MB RAM	19 kg

**CAPABILITIES OF AIRBORNE GEOPHYSICAL SURVEY CONTRACTORS**

<b>COMPANY</b> (Country) Telephone No. (Fax No.)	<b>AIRCRAFT</b> Fixed Wing = FW Helicopter = H (Positioning)	<b>AEROMAGNETIC</b> T=Total Field, G=Gradient L, TT, V=Longitudinal, Transverse & Vertical	<b>AIRBORNE ELECTROMAGNETIC</b>	<b>AIRBORNE RADIOMETRIC (R) &amp; GRAVITY (G)</b>
<b>AIRMAG SURVEYS</b> (USA) 215-673-2012 (215-464-2889)	Four Cessna 320 FW (GPS, Loran C + Camera)	Scintrex Cs Vapour (T)		
<b>APPLIED GEOPHYSICS</b> (USA) 801-328-8541 (801-363-6243)	Aero Star FW (GPS + Video Camera)	Scintrex Cs Vapour (T)		Geometrics GR800 & GR900 (16.7I)
<b>AUSTIREX</b> (Australia) 612-498-229 (612-418-1291)	Schrike Aerocommander 500S FW (Syledis, GPS + Video Camera) Cessna 206 FW (GPS + Video Camera)	Scintrex Cs Vapour (T)		
<b>BGM AIRBORNE SURVEYS (USA)</b> 713-647-9025 (713-647-0825)	Cessna 404 FW Aerocommander 500 FW Leased Helicopter H (Diff. GPS, Doppler, Video Camera)	Scintrex Cs Vapour (T)	Getech Emex, 3 Freq. H Towed Boom	Picodas PGAM 1000 R (256 channels) FX-Airgrav G
<b>CANAGRAD GEOPHYSICS (Canada)</b> 403-250-8705 (403-250-6857)	Cessna T310R FW Two Cessna 172 FW Aerospatlale AS350D Astar H (Syledis, GPS + Video Camera)	Scintrex Cs, Geometrics He & Gem Overhauser Sensors (T, LG, TTG, VG)	Geotech EMEX-II, 4 freq. H Towed Boom	Exploranium GR820 R (33I)
<b>CARSON GEOSCIENCE</b> (USA) 215-249-3535 (215-249-0726)	Twin Otter FW Sikorsky S-61 H (Motorola MiniRanger, GPS)	Geometrics 813 Proton Sensor (T)		Lacoste & Romberg G Model S
<b>DIGHEM</b> (Canada) 905-890-0313 (905-890-0347)	Leased Helicopter H (UHF, RT-DGPS + Video Camera)	Scintrex Cs Vapour (T & VG)	Dighem V H 5 frequency HEM Coaxial-Coplanar colls 220 Hz-137000 Hz	Exploranium GR820 R & Scintrex GAD 6 (8.4I, 16.7I down + 4.2I up)
<b>GEO INSTRUMENTS</b> (Australia) 612-529-2355 (612-529-9726)	Leased FW & H (GPS + Video Camera)	Geometrics He & G833 Sensors (T)		Exploranium GR820 R (256 channels) (16 or 33I)

<b>COMPANY</b> (Country) Telephone No. (Fax No.)	<b>AIRCRAFT</b> Fixed Wing = FW Helicopter = H (Positioning)	<b>AEROMAGNETIC</b> T=Total Field, G=Gradient L, TT, V=Longitudinal, Transverse & Vertical	<b>AIRBORNE            ELECTROMAGNETIC</b>	<b>AIRBORNE            RADIOMETRIC (R)            &amp; GRAVITY (G)</b>
<b>GEONEX AERODAT</b> (Canada) 905-671-2446 (905-671-8160)	Leased Helicopter H (Syledis, MiniRanger, GPS + Video Camera)	Scintrex Cs and Geometric He Sensors (T & VG)	5 or 6 freq. HEM H 2 or 3 coaxial coils + 3 coplanar 400-66,000 Hz	Exploranium R GR256 & GR820 Picodas PGAM 6000/6100 (8.4I, 16.7I, 33I + 4.2I up)
<b>GEONEX AERO            SERVICE</b> (USA) 713-780-1188 (713-780-2150)	Cessna 404 FW (GPS, Doppler + Video Camera)	Scintrex Cs Vapour (T)		Exploranium R GR 820 (33I + 4.2I up)
<b>GEOTERREX</b> (Canada) 613-731-9571 (613-731-0453)	Cessna 404 (& 320 leased) FW Casa C212 FW Leased Helicopter H (GPS, Doppler, Syledis, Video Loran C)	Scintrex Cs Vapour (T)	FW GEOTEM Time Domain Fixed loop Tx-Towed Bird Rx	Nuclear Data 560 R Exploranium GR820 (33I)
<b>GEOTERREX</b> (Australia) 61-2-418-8077 (61-2-418-8581)	Casa C212 FW Aerocommander FW Leased Helicopter H (GPS, Doppler, Syledis, Video)	Scintrex Cs Vapour (T)	GEOTEM Time Domain Fixed loop Tx-Towed Bird Rx	Nuclear Data 560 R Exploranium GR820 (33I)
<b>GLOBAL EARTH            SCIENCES (UK)</b> 923-663-331 (923-662-075)	Leased Cessna 404, 406 or FW Piper Chieftain Leased Helicopter H (Loran C, Doppler, GPS + Video)	CENG Overhauser Scintrex Cs Vapour (T & VG)		Geometrics GR800 R (33I, 256 channels)
<b>HIGH-SENSE            GEOPHYSICS LTD.</b> (Canada) 416-588-7075 (416-588-9789)	Piper Navajo FW Bell 206, 206L1 H AS 350B, ASTAR H (GPS+ Video)	Scintrex Cs Vapour (T & VG)	Geo Instruments Ranger 4 Towed Boom - 4 coll pairs Freq. Domain	Tektronics 213 Exploranium GR820 256 ch., 50I
<b>KEVRON AERIAL            SURVEY (Australia)</b> 619-417-3188 (619-417-3558)	Shrike Aerocommander FW (Doppler, Range Range, GPS)	Scintrex Cs Vapour (T)		Exploranium GR820 R (33I)

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<b>QUESTOR SURVEYS</b> (Canada) 604-531-5343 (604-531-5350)	<b>Shorts Skyvan</b> FW <b>Leased Helicopter</b> H (Diff. GPS, Doppler, Video Camera)	<b>Scintrex Cs Vapour</b>  (T)	<b>Questem Digital Time</b> <b>Domain</b> FW <b>Fixed Loop Tx-Towed Blrd</b> <b>Rx</b>  <b>Geotech Emex, 3 Freq.</b> H <b>Towed Boom</b>	<b>Picodas PGAM 1000</b> R (256 channels)  (33I)  <b>FX-Airgrav</b> G
<b>SANDER GEOPHYSICS</b> (Canada) 613-592-1301 (613-592-1302)	<b>Cessna 402 &amp; 404</b> FW <b>Beechcraft 65-B80</b> FW <b>Aerospatiale AS350 Astar</b> H (GPS, INS + Video Camera)	<b>Scintrex Cs Vapour</b>  (T & VG)		<b>Exploranium GR820</b> R  (50I)
<b>SIAL GEOSCIENCES</b> (Canada) 514-339-2999 (514-339-2997)	<b>Leased Helicopter</b> H (Delnorte UHF, Diff. GPS, Video)	<b>Scintrex Cs Vapour</b>  (T & VG)	<b>SIGHEM-V</b> H <b>Towed Boom - 5 coll pair</b> <b>Freq. Domain</b>	<b>Exploranium GR820</b> (256 channels) (33I)
<b>TERRAQUEST</b> (Canada) 905-274-1795 (905-274-3936)	<b>Cessna U206</b> FW <b>Leased Helicopter</b> H (GPS + Video Camera)	<b>Scintrex Cs Vapour</b>  (T, LG, TTG) (T, VG)	<b>Geotech EMEX</b> H  <b>Towed Boom - 3 coll pairs</b> <b>VLFEM</b> FW + H	<b>Exploranium GR256 &amp;</b> <b>GR820</b> R <b>Picodas PGAM 6000/6100</b> (8.4I, 16.7I, 33I+ 4.2I up)
<b>TESLA AIRBORNE            GEOSCIENCE</b> (Australia) 61-9-3648444 (61-9-3646575)	<b>Cessna 210</b> FW  (GPS)	<b>Scintrex Cs Vapour</b>  (T)		<b>Exploranium GR820</b> (256 channels, 33I)
<b>WORLD GEOSCIENCE</b> (Australia) 61-9-3837833 (61-9-3837166)	<b>1 x Cessna 404</b> <b>3 x Shrike Aerocommander</b> FW <b>3 x Cessna 206</b> FW <b>BN Trislander</b> FW <b>Leased Helicopter</b> (Diff. GPS, Syledls/Del Norte, Video)	<b>Scintrex Cs Vapour</b> (T, LG, TTG)	<b>Questem Digital Time</b> FW <b>Domain Fixed Loop Tx-</b> <b>Towed Blrd Rx</b>	<b>Picodas 1000</b>  (256 channels) 16/33/50I

**CANADIAN COMPANIES OFFERING AIRBORNE GEOPHYSICAL SURVEYS  
AS A CONTRACT SERVICE (1994)**  
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COMPANY (President or Senior Officer)	ADDRESS OF MAIN OFFICE	TELEPHONE #, CABLE, TELEX & FAX NO.	TYPES OF SURVEY OFFERED*
CANAGRAD GEOPHYSICS LTD. (Kaj Hedin)	Unit 2 1715-27th Ave. N.E. Calgary, Alberta T2E 7E1		Fixed Wing: AM, VLFEM/AR, Horizontal Gradiometer Helicopter: AM, AEM, VLFEM, AR, AEM Resistivity
DIGHEM SURVEYS & PROCESSING INC. (Paul Strandberg)	228 Matheson Blvd. E. Mississauga, Ontario L4Z 1X1		Helicopter: AM/VLFEM, CAM/AEM/AR/VLFEM, AEM Resistivity Vertical Gradiometer/AEM
GEONEX AERODAT INC. (Mario Steiner)	3883 Nashua Drive Mississauga, Ontario L4V 1R3		Fixed Wing: CAM/AR Helicopter: AM, CAM/AEM, AR, VLFEM, AEM Resistivity, Vertical Gradiometer/AEM
GEOTERREX (P. Norgaard)	2060 Walkley Road Ottawa, Ontario K1G 3P5		Fixed Wing: AM, CAM/AR, CAM/AR/GEOTEM Helicopter: AM, CAM/AR, CAM/AR/VLFEM
HIGH-SENSE GEOPHYSICS LTD. (Dr. W.E.S. Urquhart)	47 Jefferson Ave. Toronto, Ontario M6K 1Y3		Fixed Wing: AM, Vert. Grad., AR, VLFEM Helicopter: AM, AEM, AR, VLFEM
QUESTOR SURVEYS LTD. (Ron Sheldrake)	2482 - 148A Street Surrey, B.C. Canada V4P 1N8		Fixed Wing: AM, QUESTEM/AM, CAM/AR/VLFEM Helicopter: AM, CAM/AR/VLFEM AEM Resistivity
SANDER GEOPHYSICS LTD. (Dr. G.W. Sander)	303 Legget Drive Kanata, Ontario K2K 2B1		Fixed Wing: AM, CAM/AR/VLFEM Vertical Gradiometer/VLFEM Helicopter: CAM/AR/VLFEM Vertical Gradiometer/VLFEM
SIAL GEOSCIENCES INC. (Abbas Moussaoui)	1400 Gouin Blvd. W. Montreal, Quebec H3M 3B1		Helicopter: AM, CAM/AEM/VLFEM, CAM/AR, AEM Resistivity Vertical Gradiometer
TERRAQUEST LTD. (H.A. Barrie)	100-1373 Queen Victoria Ave. Mississauga, Ontario L5H 3H2		Fixed Wing: AM, Horizontal Gradiometer/VLFEM/AR Helicopter: CAM/AEM/VLFEM/ AR, AEM Resistivity

\*NOTATION: AM - Aeromagnetic; CAM/AEM - Combined Aeromagnetic/Airborne Electromagnetic; CAM/AR - Combined Aeromagnetic/Airborne Radiometric etc.; VLFEM - Very Low Frequency Electromagnetic